Name: _____   **Period:** ____

Chemistry – 7.3 Practice Problems
Molar & Formula Mass, Percentage Composition
20 Points Possible

1. Determine the formula mass and molar mass of ammonium carbonate, $(NH_4)_2CO_3$ (4 points).

Formula mass: Molar mass:

2. How many moles of atoms of each element are there in one mole of $(NH_4)_2CO_3$ (4 points?

N =   H =   C =   O =

3. Determine the formula mass of each of the following compounds or ions (2 points each):

    a. Glucose, $C_6H_{12}O_6$ _____

    b. Calcium acetate, $Ca(CH_3COO)_2$ _____

4. Determine the molar mass of each of the following (2 points each):

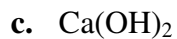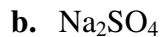   a. Na_2SO_4 _____

    b. $Al_2(CrO_4)_3$ _____

5. Determine the number of moles of each type of monatomic or polyatomic ion in one mole of the following compounds. For each polyatomic ion, determine the number of moles of each atom present (2 points each).

    a. KNO_3

        K^+ = _____ mol NO_3^- = _____ mol   N = ____ mol   O = _____ mol

      b. Na_2SO_4

      c. $Ca(OH)_2$

6. What is the mass in grams of 3.25 mol of $Fe_2(SO_4)_3$? Show your work (3 points).

7. How many moles are there in 250. g of hydrogen nitrate, HNO_3? Show your Work (3 points).

8. Determine the number of moles are in 129.68 g of $Fe_3(PO_4)_2$ (3 points).

9. Determine the percentage composition of $AgNO_3$ below (3 points).

$AgNO_3$ $Ag =$ _____ % $N =$ _____ % $O =$ _____ %

10. Determine the percentage by mass of water in the hydrate $CuSO_4 \cdot 5H_2O$ (3 points).